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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
The Development of Operational,)	
Technical and Spectrum Requirements)	WT Docket 96-86
For Meeting Federal, State and Local)	
Public Safety Agency Communication)	
Requirements Through the Year 2010)	
)	
Establishment of Rules and Requirements)	
For Priority Access Service)	

To the Commission

COMMENTS
of the
NEW YORK STATE POLICE

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INTRODUCTION

1. The State of New York, Division of State Police, otherwise known as the New York State Police (NYSP) hereby submits recommendations to the Federal Communications Commission (FCC, or Commission) regarding the proposed allocation of 746 MHz to 806 MHz to public safety in the Commission's Second Notice of Proposed Rule Making - WT Docket 96-86, FCC 97-373 (the Notice).
2. NYSP was created in 1917 as a full service police agency. Today it has an authorized strength of 4,235 sworn officers and 700 civilian support staff. NYSP operates a statewide VHF highband radio system and an 800 MHz multisite simulcast digital trunking system covering the New York City Metropolitan Area, and supports many other federal and local law enforcement agencies. NYSP has been designated the lead agency for matters of radio communications in New York State (NYS), and is currently engaged in the planning stages for a new technology statewide radio system, which is intended to serve all agencies of the State who require private land mobile radio communications.
3. NYSP has been an active participant in the National Public Safety Planning Advisory Committee (NPSPAC), the resulting Regional Planning Committees which serve NYS (8, 30 and 55). NYSP has also been an active participant in the Public Safety Wireless Advisory Committee (PSWAC) and is currently an active participant in the 746-806 MHz Spectrum Committee of the National Public Safety Telecommunications Council (NPSTC). NYSP also supports staff membership in the Association of Public-Safety Communications Officials - International, Inc. (APCO).

4. Having studied the issues in the Notice, and participated in the preparation of comments for NPSTC and APCO, NYSP offers its full support to those comments in this proceeding. We note that with competing coordination interests among some of the members of NPSTC, consensus was not achieved in matters of Regional Planning and whether a single coordinator should be designated for the 764-776/7940806 MHz band, and will address comments later on these subjects.

DEFINITION OF PUBLIC SAFETY

5. The Commission in its Notice has defined Public Safety more narrowly than the PSWAC definition. The PSWAC definition was agreed upon after considerable discussion of the merits. By the Commission defining Public Safety to solely “first responders” - Police, Fire and EMS, it creates a serious dilemma with respect to creation of large scale governmental trunking systems for use by all levels of government. In effect, the Commission is frustrating the implementation of its own goal to promote spectrum efficiency. Safety of life is an issue that has broad implication through out governmental services. Governmentally provided water supply systems, power systems, sewage and garbage disposal systems, transit systems, forest rangers and health services are directly related to the protection of the public. While some of these systems have lower priority for channel access when channel traffic becomes excessive in a system, the fact is that the safety of life of the general public is directly affected by these non-police/fire/ems governmental activities. Furthermore, it is important that federal agencies be permitted interoperability with state and local government. Therefore, NYSP strongly urges the Commission to use the PSWAC definitions for public safety: “The public’s right, exercised through federal, state or local government as prescribed by law, to protect and preserve life, property and natural resources, and to serve the public welfare”, and public

safety services: “Those services rendered by or through federal, state, or local governmental entities in support of public safety duties.”

ELIGIBILITY TO HOLD LICENSES

6. NYSP recommends that, in the public safety radio services, all licenses should be held by governmental entities. PSWAC defined public safety, public safety services, public safety services provider, public safety support provider, thus providing a mechanism for non-governmental entities, whether commercial or non-commercial, to be authorized by a governmental entity whose function is being contractually discharged by the non-governmental entity, to operate on public safety channels. The issue of radio system control is exercised by the governmental entity who grants the authority to operate on its radio system. In the same manner as the Commission has required tower owners (whether operating transmitters, or not) to be responsible for compliance with the FCC’s tower Rules and Regulations, those non-governmental users of a governmental radio system must be held responsible for compliance with FCC Rules and Regulations pertaining to that system.

INTEROPERABILITY SERVICE RULES

7. An analog 11.25 kHz bandwidth baseline technology is recommended for interoperability to facilitate use by imbedded base analog system users. While no public safety equipment is currently available to operate in this band, it is expected that existing 800 MHz public safety analog systems seeking to expand their channel capacity to meet user demand will be looking to this spectrum for additional channels. However, PSWAC also recommended that as new spectrum became available to public safety, a baseline for interoperability be established based on the bandwidth established for operational communications in that band.

8. New technology, expected to develop in this band, will likely be digital. Therefore, there also needs to be a digital baseline for interoperability. Digital systems must have a commonality of technical parameters, such as vocoder, error correction, digital framing, overhead signaling, etc., in order for communication between units to take place. Currently, competing systems in 800 MHz which employ digital modulation, be they digitally encrypted conventional channel systems or trunking systems, present incompatibility problems for interoperability. Therefore, NYSP recommends that a digital baseline for interoperability be established. The process of developing a digital radio standard for public safety communications has been a lengthy process involving federal, state, and local users, and manufacturers in a formal standard setting environment under the Telecommunications Industry Association (TIA). This process, which involves users establishing their statement of requirements, and manufacturers who are members of TIA, voting on the various technical proposals, has taken over 7 years. Partly, this has been due to differences between some manufacturers over intellectual property right (IPR) issues. The Commission was presented with an opportunity to develop standards when a proposal was put forth by ORPS, at the time the Commission had established the NPSPAC Regional Planning Committees. The Commission decided not to address standards at that time. Recognizing the need for digital standards, APCO joined with the National Association of State Telecommunications Directors (NASTD), a group of federal agencies, and the TIA to develop Project 25. Since Project 25 Phase I (12.5 KHZ FDMA) Common Air Interface represents the developed technology which has received majority approval and implementation by manufacturers to date, and is essentially completed toward becoming a full ANSI standard, the Commission should adopt that as the digital baseline for interoperability. This is not to say that other digital operational modes should be precluded from this frequency band. The requirement should be established that, regardless of any other digital modes of operation, a radio

which is designed for 12.5 kHz digital communication, must at least also have the capability to operate in the Project 25 Phase I (12.5 kHz FDMA) Common Air Interface mode of interoperability on any public safety channels.

9. The terminology used by the Commission to define interoperability has created confusion in the public safety community. Interoperability is the technical capability to communicate between units of different systems through a common technical format. Interoperability channels are specific channels that are set aside for the purpose of conducting interoperability communications. These types of channels have previously been referred to as mutual aid channels by public safety. While the Commission suggests that a major portion of this band should be devoted to interoperability, that could have two connotations, all systems should operate under one digital standard, or that a majority of the channels should be set aside as interoperability channels. NYSP disagrees with both of those connotations. To require a single digital standard will stifle technical progress and will eliminate the use of technologies which may be more efficient for specific purposes. PSWAC was very deliberate in requesting 2.5 MHz of spectrum between 138 and 512 MHz for interoperability. The 746-806 MHz band being above the PSWAC recommended frequency range, does not meet the identified need. However, this band does require some interoperability, and NPSTC has recommended a channel plan which NYSP believes provides a reasonable balance, and addresses most of the types of uses that the Commission wanted included. Full motion video, at this time, will require an excessive amount of spectrum for use in this band and should be considered for a higher frequency band. The identified interoperability channels should be assigned nationwide, and be promoted for international use along our borders, in the same manner as the NPSPAC mutual aid channels.

10. It is very early on in the process of developing new technology for digital communications above the 12.5 KHZ bandwidth. APCO has commenced a Project 34, with the same participants as for Project 25, to develop recommendations for wideband digital transmission requirements. Bandwidth is included in the NPSTC recommended channel plan to accommodate such applications, and the NCIC-2000 program of the Department of Justice/FBI will certainly be one of the first application trials of this wideband spectrum. Establishing a baseline for digital interoperability at bandwidths greater 12.5 KHZ would seem to be premature at this time.

CHANNEL REQUIREMENTS

11. NYSP supports the NPSTC recommended channel plan. Of particular importance to NYSP is the need for identified segments of spectrum, in which a new technology statewide radio communications system can be planned, constructed and operated. A most critical ingredient is the operating frequency band, since this in large measure determines the cost of a system. Propagation characteristics of various public safety bands require different densities of base station construction and tower heights.

12. The effective usability of public safety spectrum along our national borders is directly dependent upon how the channels are shared from one country to the other. While it is convenient to allocate spectrum in large frequency-blocks, the result does not always produce an efficient use of spectrum and resources. Using NPSPAC channels for instance, along the northern NYS border with Canada, Canada gets 70% of the spectrum and the US gets 30% based on the relative population densities (Toronto is to Canada as New York City is to the US). While using the same channel plan, including the identical assignment of mutual aid channels in both countries, the other channels were divided into blocks, the net result of which resulted in the US having 20 sets of

three (3)-channel trunking groups, based on 250 KHZ spacing between channels for practical transmitter antenna combiners in the sharing zone, and uniform low power tactical channels, common between the two regions - 30 and 55. If the channels had been divided in a distributed manner, the limitation of only 3 transmitters to an antenna system could have been increased to 10. This has a significant impact on antenna system and tower cost. With NPSPAC channels being geographically offset, further spectrum utilization efficiencies could have been achieved by distributed channel allocation between the two countries. NYSP recommends that the international agreements which will be required to effectively coordinate the licensing of channels in this spectrum be addressed in a manner which affords significant weight to spectrum utilization efficiency and implementation cost for the ultimate licensees. NYSP has significant experience with the "over water" propagation anomalies which occur regularly to our VHF system, where paging transmitters in Canada, placed in service in 1988, create harmful interference (full receiver capture) to a State Police channel in the US - 154.920 MHz, used for Troop-wide mobile transmission in a duplex channel dispatch operation. Distances of 200 miles over water and land can routinely present these interference problems - even to mobile reception. For that reason, NYSP strongly recommends that the Commission make every effort to ensure some type of compatible use of the channels in their international negotiations.

13. Statewide systems, by their very size and complexity, are multi-year projects. Thus while small systems can be constructed within a year, and typical governmental moderate sized systems can take five years, large scale statewide systems can easily take ten years, or more, to fully complete. The Commission currently offers five year slow growth implementation upon a proper showing. NYSP recommends that the Commission increase the slow growth implementation to ten years for statewide large scale systems.

REGIONAL PLANNING

14. NYSP supports the effectiveness of Regional Planning Committees to deal on a local basis with issues relating to the allotment of the channels in this band. We feel that this method was effective with respect to the NPSPAC channels. Those who talk against Regional Planning are generally those who did not actively participate in the Regional Plan process that was required for NPSPAC channels. NYSP generally supports state boundary regions. However, there are certain areas of the country where concentrated population dictates a multi-state region, such as the metropolitan areas encompassing New York City, Chicago, and Washington, DC. In those cases, the areas of impact should continue to constitute a Region, separate from the remainder of the states within which the Region is located. By reason of travel mileage and cost, there have been other Regions which comprise a portion of a state, as in California, New York State above Region 8, and Texas. Furthermore, the New England states, above the portion of Connecticut in Region 8, have a single Region, 19. The Commission has suggested that all 55 planning regions be retained, and NYSP takes no issue with that concept. In fact, it would substantially reduce the startup time to develop a plan for this frequency band. With potential for having to contend with slow migration of incumbent television stations out of the 746-806 MHz band, it may be necessary for Regional Planning Committees to recommend creative, temporary solution for public safety applicants to obtain near term channels in this band. Without having Regional Planning Committees, it is unclear how such “work-around” situations would be developed.

15. One of the significant issues that have faced Regional Planning Committees has been the lack of funding to support the activity. One method of solving this problem would be to have a Regional Plan surcharge above the Frequency Coordination cost. A coordinator, could serve as a fiduciary to deposit the funds in an account for the individual planning region, to be disbursed upon

submission of a receipted request for payment from the Regional Planning Committee Chairman. The fiduciary could be paid a fee from the account to perform this service. This is not intended to become a superfund, but rather to cover the reasonable and necessary expenses for such things as copying, mailing, software, database, etc.

16. Another significant issue is that of a common database to contain all of the licensee data, including receiver data, as well as proposed application data. This database has to be accessible whenever required by the various regional planning committees.

17. In order to properly identify proposed system coverage and interference contours, a common methodology is required for predicting radio signal coverage that can deal with the variety of emissions and bandwidths to be encountered in this spectrum. NYSP recommends that the methodology developed in TIA, currently balloted for TSB-77, and shortly expected to become an ANSI standard, be required for Regional Plan allotment technical evaluations and license applications. Unless all applicants and Regional Planning Committees are using the same methodology, problems will result.

INTERFERENCE PROTECTION BETWEEN TELEVISION STATIONS AND PUBLIC SAFETY USERS IN THE 746-806 MHz BAND

18. NPSTC commented in ET Docket 97-157: "Accordingly, NPSTC believes that broadcast services should be removed entirely from 746-806 MHz and recommends that this spectrum would be put to better use in compatible land mobile applications. Expanding the market for land mobile equipment in the 746 to 806 MHz band will have the beneficial effect of reducing the cost of equipment for this band, which is particularly advantageous to public safety."

NYSP fully supports this recommendation, so that "green space" can be made available as soon as possible within which new technology, and a new statewide radio communication system, could be implemented.

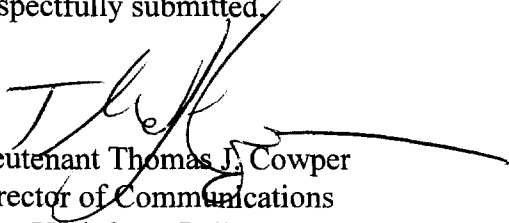
PRIORITY ACCESS SERVICE

19. NYSP believes that priority access service could be useful in times of large scale emergency, such as the TWA crash off Long Island, where the commercial wireless communications systems become overloaded. However, this is a common carrier issue to which public safety needs to comment, and has no direct relevance to the implementation of public safety spectrum at 746-806 MHz. NYSP recommends that this issue be the subject of a future Notice of Proposed Rule Making for the Common Carrier Bureau.


CONCLUSION

20. The New York State Police request that the Commission favorably consider our comments and those of NPSTC and APCO, and proceed to adopt rules in accordance with those recommendations for the assignment and use of 764-776/794-806 MHz by public safety.

Respectfully submitted,



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